

## CLAIMS

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1. An air flow control system comprising,  
2 a lightweight headgear structure,  
3 a fan mounted to said headgear structure to generate air flow around  
4 said headgear structure,  
5 air flow monitoring means mounted to said headgear structure to  
6 monitor the air flow adjacent to said headgear structure.

- 1 2. The system recited in claim 1 including,  
2 a power supply connected to supply power to said fan.

- 1 3. The system recited in claim 1 wherein,  
2 said air flow monitoring system is a mechanical apparatus.

- 1 4. The system recited in claim 1 wherein,  
2 said air flow monitoring system is an electrical apparatus.

- 1 5. The system recited in claim 1 wherein,  
2 said power supply comprises a battery.

- 1 6. The system recited in claim 1 including,  
2 a shroud adapted for covering said headgear structure.

- 1 7. The system recited in claim 2 including,  
2 first indicia means connected with said air flow monitoring means to  
3 provide an indication of a predetermined operating condition thereof.

1 8. The system recited in claim 7 wherein,  
2 said first indicia means comprises a light emitting diode.

1 9. The system recited in claim 2 including,  
2 second indicia means connected to said power supply to provide an  
3 indication of a predetermined operating condition thereat.

1 10. The system recited in claim 9 wherein,  
2 said second indicia means comprises a light emitting diode.

1 11. The system recited in claim 3 wherein,  
2 said air flow monitoring means includes a pivotally mounted arm which  
3 is selectively positioned by an air flow around said headgear structure.

1 12. The system recited in claim 11 including,  
2 a reference magnet mounted to said headgear structure adjacent to  
3 said arm,  
4 a positioning magnet mounted on said arm and adapted to interact with  
5 said positioning magnet to locate said arm.

1 13. The system recited in claim 12 including,  
2 a Hall-effect device mounted on said headgear structure,  
3 a sensing magnet mounted on said arm to selectively alter the  
4 operation of said Hall-effect device as a function of said arm.

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1 14. The system recited in claim 4, wherein,  
2 said air flow monitoring system includes a current sensing device for  
3 determining the amount of current supplied to said fan.

1 15. The system recited in claim 14 including,  
2 voltage regulator means for supplying a relatively fixed voltage to said  
3 current sensing device, and  
4 a sensing circuit connected to said current sensing means for detecting  
5 an excessive current in said current sensing mean.

1 16. The system recited in claim 15 wherein,  
2 said sensing circuit includes an operational amplifier.

1 17. The system recited in claim 3 including,  
2 a voltage detect circuit connected to a power supply to detect the output  
3 level therefrom.

1 18. The system recited in claim 4 wherein,  
2 said air flow monitoring system includes  
3 a voltage sensing device for determining the amount of voltage supplied  
4 to said fan.

1 19. The system recited in claim 18 including,  
2 a current controlling means for supplying a relatively fixed current to  
3 said voltage sensing device.

1           20.   The system recited in claim 5 including,  
2                   a battery voltage monitoring means to monitor the voltage level  
3   produced by said battery.